



Upper Nansemond River TMDL Implementation Plan Public Meeting



July 9, 2009
King's Fork Middle School



Outline for Meeting

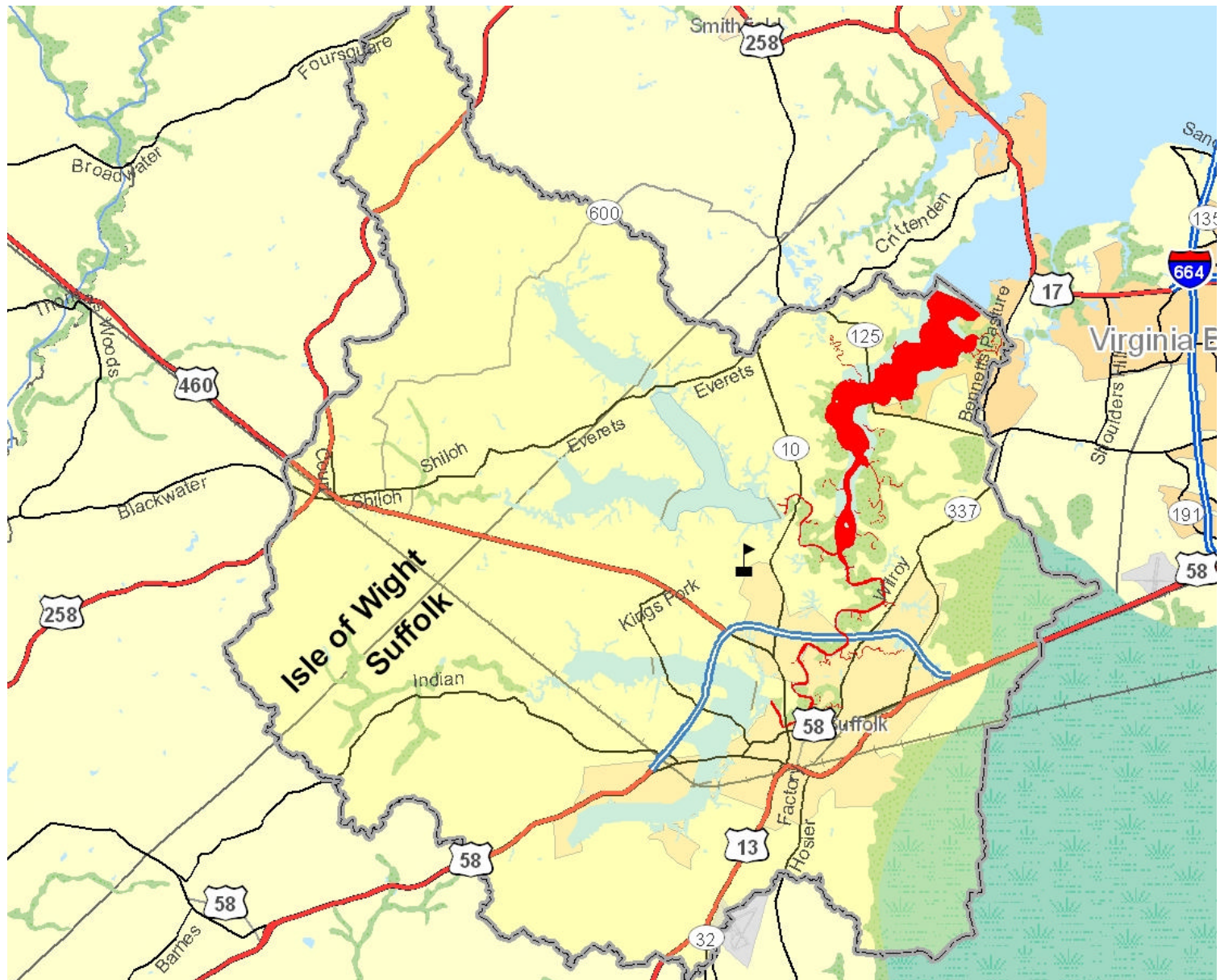
- Introduction and Welcome
 - ? Sherry Earley, City of Suffolk Public Works
- Overview of TMDL and Implementation Plan
 - ? Jenny Tribo, HRPDC
- Questions and Comments



Why are We Here ?

- Upper Nansemond and Shingle Creek do not meet bacteria standards
- Waterbodies placed on Virginia's impaired waters list in 1996.
- DEQ developed TMDL study in 2006
- Implementation Plan must be developed to reduce bacteria

Area of Concern





What is a TMDL?

- **T**otal **M**aximum **D**aily **L**oad
- Definition: Maximum amount of a pollutant that a waterbody can receive and still maintain its designated use.
- In effect: Planning tool to develop pollution reduction goals in order to improve water quality in impaired waterbodies.



TMDL Process: 3 Steps

1. **303d List** : Identify Impaired Waters
2. **TMDL Study** : Develop allowable load of pollutant in order to obtain water quality standards
3. **Implementation Plan**: Identify measures necessary to achieve the allocations

WATER QUALITY TARGETS

Use	Parameter	Geometric Mean	90 th Percentile	Instantaneous
Shellfishing	Fecal Coliform	14 cfu/100ml	31 cfu/100ml	
Primary Recreation	Fecal Coliform	200 cfu/100ml		400 cfu/100ml
Primary Recreation	Enterococci*	35 cfu/100ml		104 cfu/100ml

* Enterococci Standard effective January 15, 2003



Development of TMDL Study

- Evaluation of Potential Sources
- Data Collection
- Utilize water quality models to calculate allowable load of pollutant
- Consider background sources and seasonal variations
- Allocate allowable load among point and non point sources



Source Evaluation and Data Collection

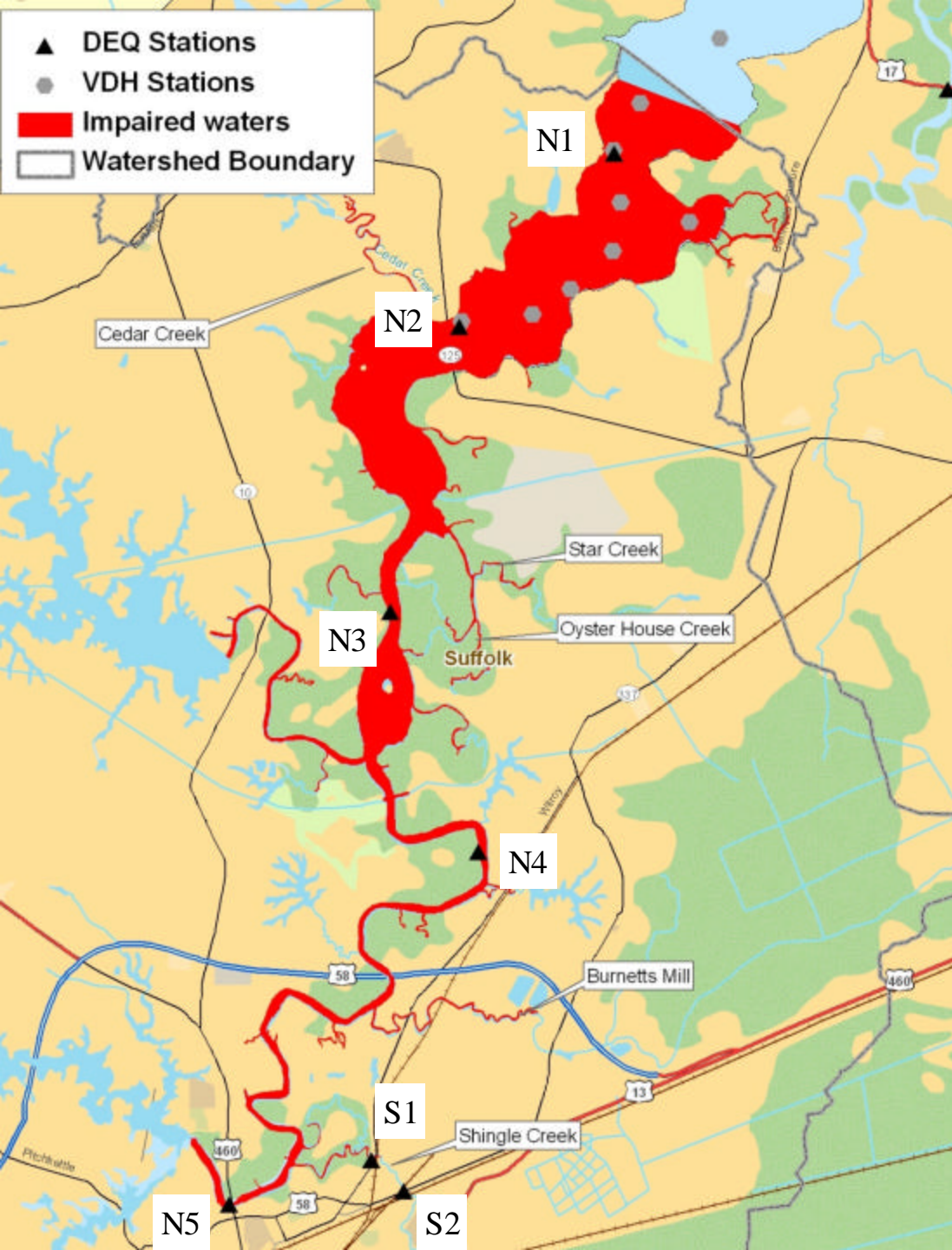
- Land Use
- Permitted Point Sources
 - Stormwater Permits
 - Wastewater Treatment Plants
 - Industrial Discharges
- Non point Sources
 - Pet waste
 - Septic Tanks
 - Agriculture
 - Wildlife
 - Discharge from boats and marinas



TMDL Overview

- Exceeds standards for Enterococci and Fecal Coliform
- Impaired for shellfish harvesting and primary contact recreation
- Portions listed since 1996
- Expanded listing in 2004
- TMDL Completed in 2006

WATER QUALITY MONITORING STATIONS



SUMMARY OF FECAL COLIFORM DATA :1980-2005

Station	Number of Samples	Average	Violation Rate
N1	130	35 cfu/100ml	3%
N2	136	51 cfu/100ml	1%
N3	137	386 cfu/100ml	17%
N4	33	727 cfu/100ml	15%
N5	343	3,303 cfu/100ml	70%
S1	314	4,159 cfu/100ml	73%
S2	31	1,084 cfu/100ml	68%

LOAD REDUCTIONS FOR PRIMARY CONTACT RECREATION

Waterbody Segment	Percent Reduction from Existing Condition					
	Direct Wildlife	NPS Forest/Wetlands	Direct Livestock	NPS Agriculture	Direct Human Loads	NPS Residential
Shingle Creek	0	0	0	0	100	0
Nansemond River Upper	0	0	90	100	100	50
Lake Meade Dam	0	0	90	50	100	50
Lake Meade Dam*	0	0	0	0	100	0

*Allocation if upstream segments meet standard

LOAD REDUCTIONS FOR SHELLFISHING

Waterbody Segment	Percent Reduction from Existing Condition					
	Direct Wildlife	NPS Forest/Wetlands	Direct Livestock	NPS Agriculture	Direct Human Loads	NPS Residential
Shingle Creek	97	98	100	99	100	99
Nansemond River Upper*	96	97	0	96	100	96
Lake Meade Dam	0	0	0	0	100	0

* Assumes Shingle Creek meets standard

** Assumes upstream segments meet standard



Implementation Plan Development

- Identify Changes in Watershed since TMDL
- Target Human Sources
- Identify Ongoing/Planned Source Reduction Activities
- Identify and Select Future Management Actions
- Evaluate Progress and Effectiveness of Actions



Who is Involved in IP Development

- Hampton Roads Planning District Commission (HRPDC)
- City of Suffolk
- Isle of Wight County
- Izaak Walton League
- Virginia Department of Environmental Quality
- Virginia Department of Health
- Virginia Department of Conservation and Recreation



Implementation Plan Development

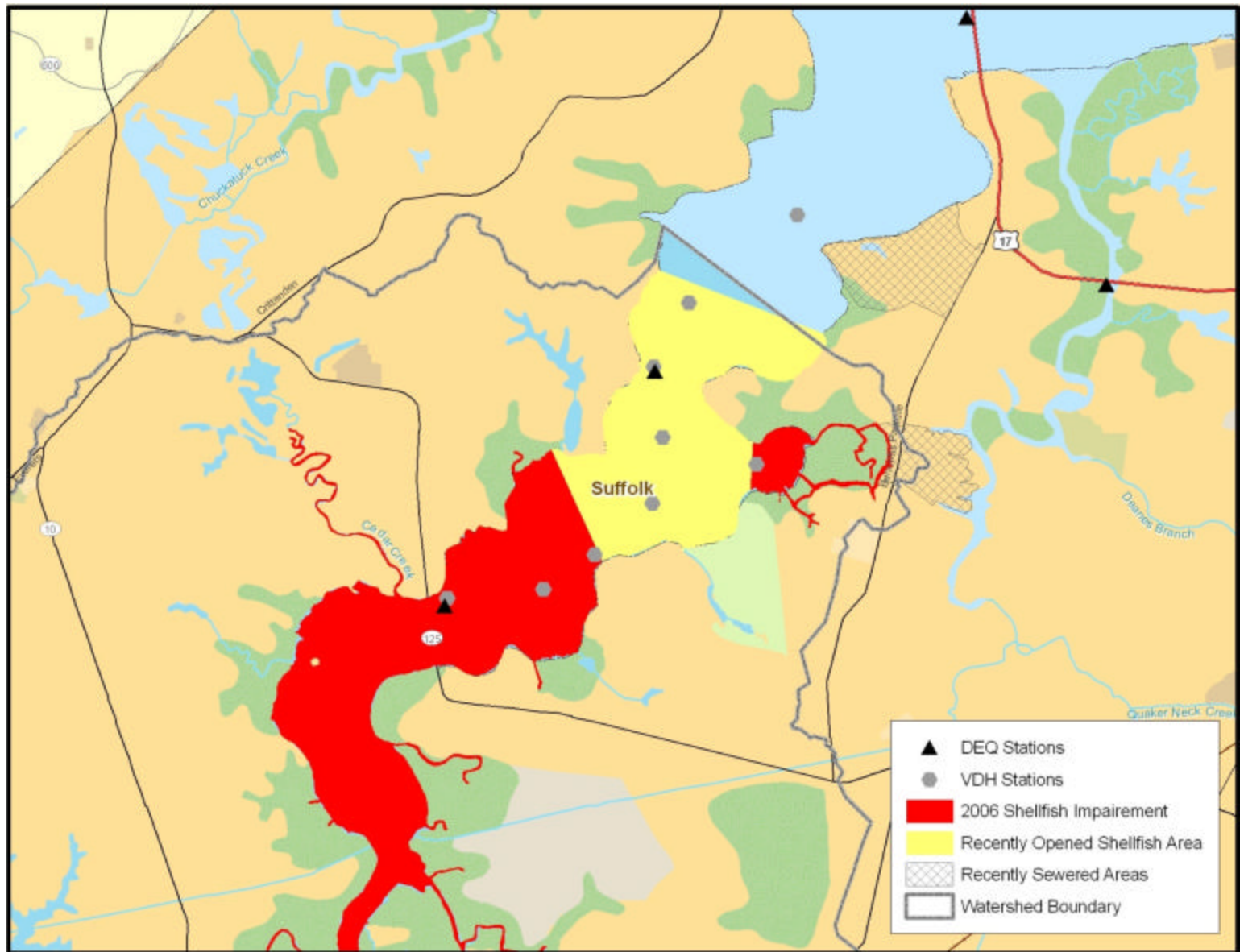
- Involve Local Stakeholders
 - ? Public meetings
 - ? Working groups
 - ? Steering committee
- Review and update data from TMDL Study
- Integrate watershed plans or other planning activities within the watershed
- Evaluate existing programs
- Identify existing and planned remediation activities (BMPs)



Water Quality Improvements

- Bennetts Harbor and Nansemond Shores sewered
- Downstream waters opened to Shellfish harvesting
- Fecal coliform concentrations lower at Shingle Creek Station

Water Quality Improvements



Best Management Practices to Reduce Bacteria

Wildlife



**DO NOT
FEED
THE WATERFOWL**

Violators will be subject to \$25.00 fine.

Per: Town of Yarmouth Department of Natural Resources.

Residential



Commercial



Best Management Practices to Reduce Bacteria

Boating

Urban Stormwater





Recent and Upcoming Activities

- Septic tank pump out programs
- Storm sewer marking
- Sanitary Sewer Improvements



Potential Funding Sources

- EPA Section 319 Funds
- Water Quality Improvement Fund
- State Revolving Loan Funds
- **Local Government Funds**
- Private Funds



IP Development Schedule

- July – Public Meeting
- September – Draft Implementation Plan
- October – Final Public Meeting
- December – Plan Submitted to DEQ



Contact Information

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Link to TMDL Document:

<http://www.deq.state.va.us/tmdl/develop.html>